

KECMANOVIC, Zlatimir; PISTELJIC, Dusan

Justification of the term Mikulicz syndrome. Med. glasnik. 8 no.1:
14-17 Ja '54.

1. Oena klinika Medicinskog fakulteta u Beogradu (upravnik prof.
dr. Dj. Nesic)
(MIKULICZ' DISEASE
*nomenclature)

L 1715-66 EWP(c)/EWG(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l) IJP(c)

RDW/JD

ACCESSION NR: AF9024083

CZ/0039/64/025/011/0650/0657

AUTHOR: Pistalka, Milan (Engineer); Jelinek, Josef (Engineer) 45
44

TITLE: Production technology and parameters measurement of a semiconductor cooling battery and its comparison with foreign-made types C

SOURCE: Slaboprouty obzor, v. 25, no. 11, 1964, 650-657

TOPIC TAGS: battery, semiconductor device

ABSTRACT: [Authors' English summary, modified]: Technological data are given on the manufacture of Czechoslovak cooling batteries made of semiconductors. These eight-cell batteries, marked BGH 8/21, are based on a Bi-Sb-Te-Se system. Described is the vacuum equipment used in measuring the curves of the cooling power, thermoelectric power, thermal conductance, and electric resistance of the assembled battery. Qualities of an ideal battery, limited solely by parameters of its semiconductor material, are compared with actual batteries affected by technological processes. Results are compared with the properties of several foreign batteries. Thirteen references. Orig. art. has: 12 formulas and 8 graphs.

Card 1/2

L 1715-66

ACCESSION NR: AP5021083

ASSOCIATION: Ustav pristrojove techniky CSAV, Brno (Institute for Instruments Technology, CSAV)

SUBMITTED: 04Sep64

ENCL: 00

SUB CODE: EE, EC

NR REP SOV: 000

OTHER: 013

JPRS

Card 2/2

DP

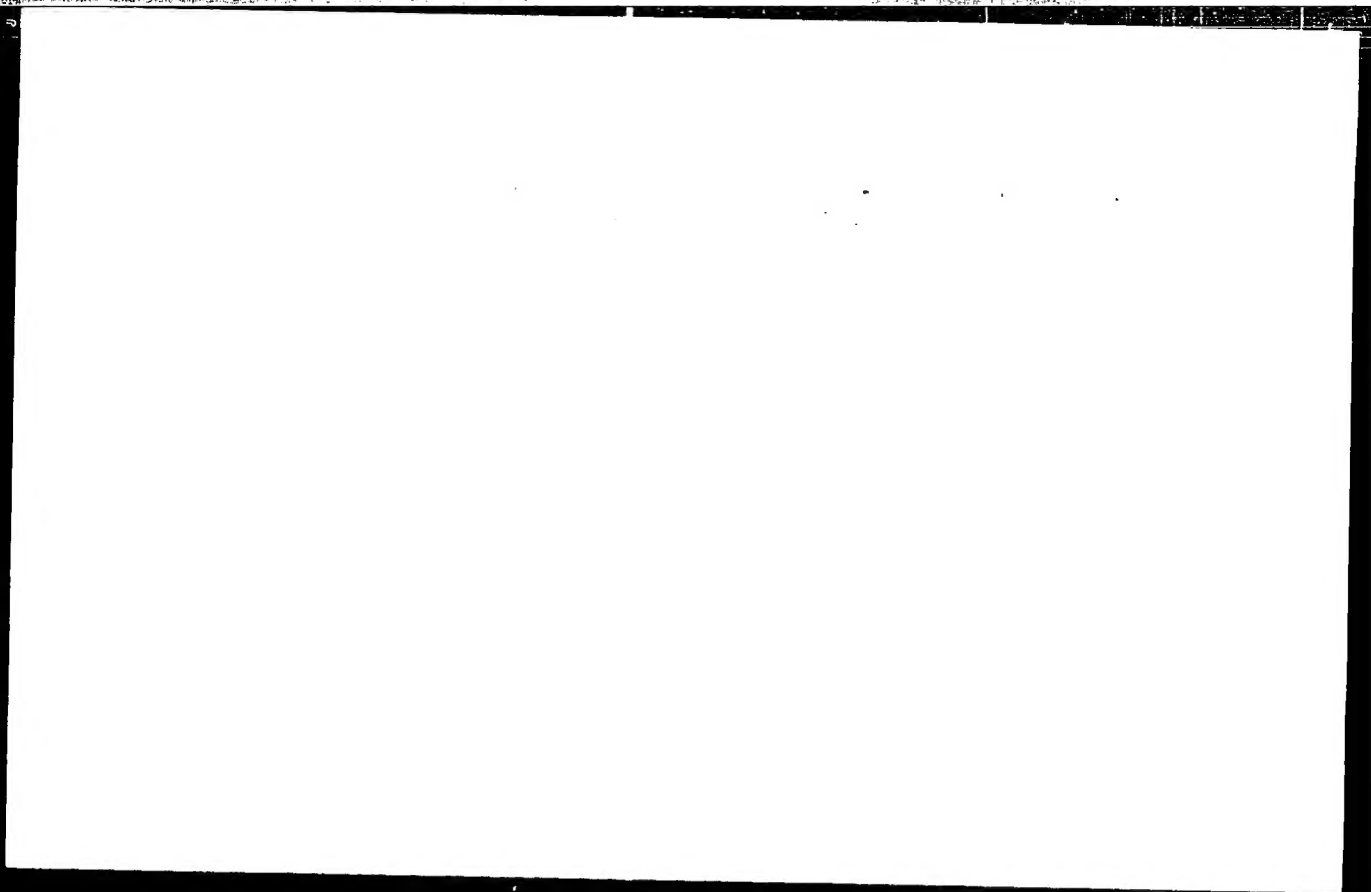
PISTELKA, Milan, inz.

Determining the parameters of bead thermistors by the graphic-numerical method. Slaboproudy obzor 23 no.9:495-500 S '62.

1. Ustav pristrojove techniky, Ceskoslovenska akademie ved, Brno.

"APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001341



APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R0013411

KREJCI, Vladimir; SALANSKY, Igor; PISTELKA, Milan

Electrodiagnosis of closed muscle injuries. Cas.lek.cesk 100 no.50:
1578-1582 19 D '61.

1. Vyzkumny ustav traumatologicky v Brne, reditel prof. Dr. Sc. MUDr.
Vladimir Novak. Ustav pro vseobecnou a experimentalni patologii
lekarske fakulty v Brne, prednosta prof. Dr. Sc. MUDr. RNDr. Vilem
Uher. Laborator prumyslove elektroniky CSAV v Brne, vedouci prof. Dr.
Sc. Julius Strnad, clen korespondent CSAV.

(MUSCLES wds & inj) (ELECTRODIAGNOSIS)

S/194/62/900-010/076/004
A055, A126

AUTHOR: Risticka, Milan

TITLE: Circuit of a "pulse controlled" (zhdushchiy) multivibrator with an electron tube and a thyatron

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 1, 1961, p. 112, abstract 10-1-223a (USSR. pat., cl. 21g, 12-1, 21g, 12-1, 100190, July 15, 1961)

TEXT: The patent concerns a monostable multivibrator circuit with a tube, a thyatron and a relay, where the tube and the thyatron are connected in series, the thyatron cathode being connected to the tube anode; the thyatron grid is connected to the power supply through an ohmic divider. A delay element (parallel RC-circuit) is connected to the tube input between grid and ground. The cathode resistance of the tube is blocked by the release contacts of the relay; the circuit formed by the series-connected thyatron and relay winding is connected in parallel with the anode resistance of the tube; the common point of the tube-anode resistance and the relay winding is connected to a pole of the

and 112

Circuit of a "pulse" thyatron:

Fig. 1. a) Schematic diagram of the circuit; b) waveforms of the signals.

power supply. When a negative pulse is applied to the grid, the thyatron is extinguished. The contacts starting the thyatron are closed. At the same time, the negative pulse charges the capacitor. At the discharge of the capacitor, the current in the thyatron increases, the voltage across the anode resistance decreases and, at a certain difference (across the anode resistance) equal to the thyatron firing voltage, the thyatron is fired. The anode current of the tube grows sharply up to a value determined by the residual charge of the capacitor at the moment and is used for a reliable opening of the contacts on the cathode resistance; the current formed on the cathode resistance limits the growth of the anode current of the tube.

A.C.

(Abstracted from: "Pulse" thyatron translation)

Card 2/2

Z/039/52/023/009/001/003
2407/5301

AUTHOR: Mistečka, Milan, Engineer

TITLE: A contribution to determining bead-thermistor characteristics by a graphical-numerical method

ANALYSIS: Slaboproudy časopis, v. 29, no. 9, 1982, 495-500

NOTE: The article presents a primary graphical-numerical solution of bead-thermistor characteristics which permits sufficiently precise determination of all parameters necessary for design of measuring instruments with thermistor pickups. A classification of Czechoslovak bead-type thermistors series M15 and M16 is given according to their most advantageous application in heat transfer and control engineering. The author derives numerically the bead-thermistor resistance (R) as a function of the ambient temperature (t_0) (Bison function), the heating current (I), and the coefficient of heat passage from the bead to the environment (k). Individual functions are presented graphically as well as the total function $R = f(t_0, I, k)$. According to their characteristics, Czechoslovak

Card 1/2

.. contribution to determining ...

2/ 59/02/025/001/11/115
3457/0301

W51 thermistors series 1412 are most suitable for temperature measuring, while W51 thermistors series 1408 are most suitable for measuring flow rates of liquids and gases (anemometers), for contactless level gages, vacuum measuring, relative moisture measuring, in gases, etc. There are 5 figures.

ASSOCIATION: Ústav přístrojové techniky ČSAV, Brno (Instrumentation Institute, Czechoslovak AS, Brno)

SUBMITTED: May 4, 1962

Card 2/2

PUR, S.; PISTELKA, Z.

Results of the surgical treatment of vertical heterotropias. Čas.
oftal. 18 no.2:107-111 Mr '62.

1. Oční oddelení OUNZ v Kromerizi.
(STABIS MUS surg)

PISTELKA, Z.; DOSTAL, V.; HRONEK, J.; DOCKAL, J.; RYMLOVA, A.; VICEK, F.

Therapeutic results of combined optic-orthoptic treatment in short-term evaluation. Cesk. ofth. 14 no.6:437-443 Dec 58.

1. Očni oddeleni OUNZ u Kromerici, zaš. primar dr. A. Dolenek.
(STRABISMUS, ther.

combined optic-orthoptic ther. (Cz))

(AMBLYOPIA, ther.

same)

(ORTHOPTICS, in various dis.

combined orthoptic-optic ther. in amblyopia & strabismus (Cz))

PISTINJAT, Mitar

Some problems related to the organization and operation of the
American railroads Zvezni e Jug 10 no.4:35-40 Ap 63.

PISTOLENKO, V.

Circumspection during the flight. Kryl.rod. 13 no.7:16 JI '62.

(MI.A 16:2)

1. Komandir sveta Vitebskogo aerokluba.
(Flight)

1. The first of the two main parts of the report is a description of the
2. "The second part of the report is a description of the
3. "The third part of the report is a description of the
4. "The fourth part of the report is a description of the

JELINEK, J.; PISTOLAA, A.

A sample of the ...
for low temperatures. It is ...

PISTELJIC, Drago, sanitetski major d-r

General considerations on psychopathies and the problem of psychopathies
in the military environment. Voj.san.pregl., Beogr. 17 no.7/8:820-823
Jl-Ag '60.

1. Vojnomedicinska Akademija u Beogradu, Klinika za zivcane i dusevne
bolesti

(MENTAL DISORDERS)

(PSYCHOLOGY MILITARY)

PISTELJIC, Dusan.

Adie syndrome. Spr arhiv lekar 82 no.3:417-423 Mr '54. (REAL 3:6)

1. Klinika za ocne bolesti Medicinskog fakulteta u Beogradu, upravnik:
prof. dr. Djordje Nasic. (Rad je Urednistvo primilo 27-VII-1953 god.)
(ADIE SYNDROME)

PISTELJIC, Dusan

STANKOVIC, Ivan, asist. dr.: PISTELJIC, Dusan, dr.

The syndrome of edematous neuitis of the optic nerve. Srpski arh.
celok. lek. 82 no.6:758-764 June 54.

1. Klinika za ocne bolesti Medicinskog fakulteta u Beogradu,
upravnik prof. dr. Djordje Mesic. (Rad je urednistvo primilo 28.
XI.1953 god)

(NERVUS, OPTIC, dis.
neuitis, edematous)

PISTELKA, Z.; MATOUŠKOVÁ, S.

Our experience with the treatment of excentric fixation in amblyopia using Gunder's after-image method. Cesk. ofth. 15 no.4:270-274 Aug 59.

1. Oční odd. OUNZ v Kromerizi, zřetupující prim. MUDr. A. Dolenek.
(STRABISMUS, compl.) (AMLYOPIA, compl.)

DOLENEK, A.; PISTELKA, Z.; technicka spoluprace SETNICKA, M.

On the problem of erysiphake and pharcoerysis. Cesk. oftal. 18
no.1:62-65 Ja '62.

1. Očni klinika lek. fak. PU v Olomouci, prednosta prof. dr.
V.Vejdovsky Očni oddeleni OUNZ v Kromerizi, zastupujici prednosta
dr. A. Dolenek:

(CATARACT EXTRACTION)

FISTENJAT, M.

A partial review of the article "The Survey of the Problem of the Varazdin-Ljubovec Route." p. 27.
(Zeleznice, Vol. 13, no. 3, March 1957. Beograd, Yugoslavia)

SO: Monthly List of East European Accessions. (EEAL) LC. Vol. 6, No. 7,
July 1957. Uncl.

PISTINJAT, M.

Improving the bonus system. p. 28.

Periodical: ZELEZNICE.

Vol. 15, no. 3, Mar. 1959.

TECHNOLOGY

SO: Monthly List of East European Accessions (EEAI) LC

Vol. 8, no. 4
April 1959, Uncl.

GLADKOV, N., zasluzhennyy master sporta; RATSEISKAYA, M., zasluzhennyy
master sporta; IL'CHENKO, V., zasluzhennyy master sporta;
VERETENNIKOV, M., master sporta; OSTROVSKIY, P., master sporta;
ZUBOVA, V., master sporta; CHERNOV, B., master sporta;
ZAYTSEV, S., master sporta; PISTOLENKO, V., master sporta;
POCHERNIN, V., master sporta

Toward new sportive achievements. Kryl.rod. 13 no.4:1986; 1986.
(1986 19:5)

(Aerial sports)

1. 1. 1.

2. 2. 2.

3. 3. 3.

4. 4. 4.

1957, V.

"Our construction industry should use more fire-resistant material."

J. 6 (Teknika) Vol. 4, No. 1, 1957
Tirane, Albania

Monthly Index of Publications (PEP) LC. Vol. 7, No. 4,
April 1958

PISTOLKORS, A. A.

"Ra Hants Resistant of Beam Antenna," Proceedings of the American Society of Radio Engineers, Vol. 17, p. 562, 1929

PISTOLIKORE, A. A.

"Theory of a Nonsymmetrical Two-Conductor Line," Radiotekhnika i elektronika, No. 1 (16), 1967

PISTOL'KORS, A. A. and NEMYAN, V. S.

"Instrument for Direct Measurement of the Coefficient of Standing Waves in
Feeder Cables," Elektrosvyaz, No. 11, 1961

PISTOL'KORS, A. A.

aut. 11-11
"Theory of a Ring Type Diffraction Aerial. I," Zhur. Tekh. Fiz., 11, No. 11, 1971
Leningrad Inst. Communications

PISTOLIKORS, A. A.

SA

B 66
K

Calculation of the susceptance of diffraction aerials.
PISTOLIKORS, A. A. *J. Tech. Phys.*, USSR, 16 (No. 1)
JUN 1936) In Russian. Assuming that the idealized
conducting plane is infinitely thin, a diffraction aerial
can be considered as a slot in such a plane, the "dual"
method being then applicable. Maxwell's equations are
derived and the electric and magnetic field vectors are
shown to be interchangeable. The electric field distribu-
tion along the slot and the surface currents on the plane
can be calculated, thus determining the admittance of the
linear slot aerial.

antennas
math

A 1

PISTOLIKOV, A. A.

5 A

Propagation of electromagnetic energy along a slot in a conducting plane. I. Travelling wave.
 PISTOLIKOV, A. A. *J. Tech. Phys., USSR*, 18 (No. 11-20 (1948) in Russian.—The case of a travelling flat wavefront along the slot is treated analytically and the solutions of the differential equations interpreted physically. The practical example of a plane with a thickness/slot-width ratio of 0.1 is considered. The potential distribution curve across the slot is plotted.

A. L.

B 66
 a.

PISTOLKORS, A. A.

SA

B C 6
a

621.392.1: 538.566 -- 82 482
Propagation of electromagnetic energy along a slot
in a conducting plane. II. General case. PISTOLKORS,
A. A. / *Tech. Phys., USSR*, 16 (No. 1) 21-34
(1946) *In Russian*.—The general case of electro-
magnetic energy travelling along a slot is represented
by simultaneous appearance of a flat wave moving
along the slot and the radiation of a cylindrical wave
by the slot. Mathieu equations are solved for a plane
of finite thickness, and the results are applied for the
general case of a cophasal diffraction aerial. A. L.

PA-2072

PISTOL'KORS, A. A.

USSR/Physics
Fields, Electromagnetic
Conductors

Dec 1946

"Concentrated Electromagnetic Excitation of a Conductive Groove," A. A. Pistol'kors, 10 pp

"Zhur Tekh Fiz" Vol XVI, No 10

The electromagnetic field during concentrated excitation of the groove can be represented as a superposition of an infinitely large number of "individual waves" of the groove, whose distribution constant is determined by systematic roots of Bessel's function of the first class and first degree. These are so stable that notwithstanding the separate waves which run along the axis of the groove, they guarantee a transformation to zero of the tangent which is compensated by the electric field on its surface. 26792

PISTOL'KORS, A. A.

PA 26798

USSR/Russia
Waves, Electromagnetic
Conductors

Dec 1946

"Electromagnetic Waves in Grooves," A. A.
Pistol'Kors, 26 pp

"Zhur Tsh Fiz" Vol XVI, No 10

Discusses the effect of flat electromagnetic waves on cylindrical conductors of infinite length. Brief description of the elliptical system of coordinates, but 'ye's function, and formulae for conductors of finite lengths. This is followed by a discussion of the case where the conductor is infinite in length, and the electromagnetic fields set up in the conductors. As a means of illustrating the various formulae and theories, the author treats 26798

USSR/Russia

(Contd)

Dec 1946

the case of a coplanar slot antenna. Submitted by B. A. Vvedenskiy at the Section of Electro-Communications, of the Department of Technical Sciences, Academy of Sciences of the USSR. //

2

26798

PISTOLKORS, A. A.

Pistol Kors, A. A. Radiation from longitudinal slits in a circular cylinder. C. R. (Doklady) Acad. Sci. URSS (N.S.) 52, 127-130 (1946).

The author obtains a formula for the radiated field from a system of identical longitudinal slits located arbitrarily (but with no relative axial displacement) on the surface of an infinitely long perfectly conducting circular cylinder, assuming that the field distribution over all the slits is the same. In the case of a single narrow slit curves are drawn showing the radiation pattern in the plane perpendicular to the axis of the cylinder for various values of the cylindrical radius.

M. C. Gray (New York, N. Y.).

Source: Mathematical Reviews,

Vol 8, No. 5

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 392 - I

Call No.: TK6565.A6P5

BOOK

Author: PISTOL'KORS, A. A.

Full Title: ANTENNAS

Transliterated Title: Antenny

Publishing Data

Originating Agency: None

Publishing House: State Publishing House for Literature on Problems
of Communications and Radios

Date: 1947

No. pp.: 479

No. of copies: 10,000

Editorial Staff

Editor: None

Tech. Ed.: None

Editor-in-Chief: None

Appraiser: None

Others: The author expresses his gratitude to Dr. V. N. Kessenikh
and Dr. G. Z. Ayzenberg for their constructive criticism and to the
Assistant Minister of Communications, S. I. Alyushin for his
assistance.

Text Data

Coverage: The main emphasis in this work is placed upon the theory of
antennas, particularly on the physics of antenna operation. The
general theoretical treatments is followed by a detailed study of
various types of antenna installations grouped according to wavebands.
Some attention is also given on antenna types used by permanent radio
installations of the Ministry of Communications.

1/2

AID 392 - I

Antenny

The treatment of the book is largely abstract with considerable mathematical analysis and performance diagrams. There are relatively few photos of other examples of actually manufactured units. The book does not deal with antennas used for aircraft, shipping, radar, or communications. Likewise, the structural aspect of antenna installations are omitted.

TABLE OF CONTENTS

- Ch. 1. General Data on Antenna Installations
- " 2. Theory of High-Frequency Energy Conductors
- " 3. Radiation Theory for Radio Waves
- " 4. Receiving Antenna Theory
- " 5. Long Wave Antennas
- " 6. Broadcast Wavelength Antennas
- " 7. Shortwave Antennas
- " 8. Very High-Frequency Antennas
- " 9. Problems of Operation of Antenna Installations

Purpose: Intended as a textbook for courses on antennas read at higher communications institutes.

Facilities: Leningrad Institute of Communications Engineers

No. of Russian and Slavic References: Some Soviet and foreign sources are mentioned either in footnotes or in the text

Available: Library of Congress

2/2

*Aerial Transmission
Line*

W.E

1948
Radiation from Longitudinal Slots in a Circular
Cylinder
A. A. Dated 1948
A mathematical investigation of the radiation from
arbitrarily shaped longitudinal slots in the surface of an infinitely long cylinder of
radius a is presented. The field on the surface of
the cylinder is represented by superimposed
harmonics corresponding to the terms of a
Fourier series. Methods are indicated for
finding the field set up at a great distance from the
cylinder by a harmonic of order p . A formula
for this field is derived. The field set up by a slot
of width $2b$ is equal to the sum of the fields set up by
all harmonics. A formula is also derived for the
total field due to a single slot. The total radiation
from the field is also found. Top of p. 1

1948

PISTOL'KORS, A. A. Prof.

"The Principle of Duality in the Theory of Diffraction of Electromagnetic Waves
in Plane Screens," Dokl. AN SSSR, 41, No. 7, 1948

PISTOL'KORS, A. A.

PA 245T97

USSR/Physics - Electromagnetic Field 11 Oct 52

"Theory of a Conductor Near Boundary of Separation of Two Media," A. A. Pistol'kors, Corr Mem, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol 84, No 5, pp 941-943

Analyzes electromagnetic field of cylindrical symmetry produced around conductor located on boundary between 2 media. In case of dielectric without losses, field is found to be defined by integration over cross section of cylinder; while in case of losses, the dielectric contains cylindrical waves as observed in underground cables. Received 17 Jul 52

245T97

PISTOLEWS, A. A.

Electrical Engineering Abstracts
May 1954
Telecommunication

2210. Use of Mathieu functions for computing field distribution in an antenna to obtain a given directional diagram. A. A. PISTOLEWS. Dokl. Akad. Nauk SSSR, 89, No. 5, 849-52 (1953). In Russian. English translation, U.S. National Sci. Found. NSF-tr-113.

The field distribution is studied for an infinite straight slot of given width in a limitless conducting sheet. If a specified directional radiation pattern is expressed as a Fourier series it is easy to express the field in terms of Mathieu functions. The method is illustrated for the directional pattern $f(\eta) = \sin(\pi \cos \eta) / \sin \eta$. The conditions for precise or approximate solutions are deduced.

W. T. BLACKBAND

PISTCHIKORS, A. A.

"Electromagnetic waves in a ferrite layer having a field of a magnetized
Ferrite," Dokl. Ak. Nauk, 21, No. 6, 1954

USSR/Electronics - Wave Propagation

FD-2222

Card 1/1 Pub 90-2/12

Author : *Mikaelyan, A. L., and *Pistol'kors, A. A.

Title : Electromagnetic waves in magnetized ferrites (ferromagnetic nonmetals) with conducting boundaries

Periodical : Radiotekhnika, 10, 14-24, Mar 1955

Abstract : The problem of electromagnetic waves propagation in ferrites, under a steady magnetic field and having one or two ideally-conducting surfaces, is discussed in details in this article. A well known method of partial waves is applied to study the above problem, which clearly brings out the physical aspect of the phenomenon. Maxwell's equation is applied to obtain the mathematical representation of wave propagation in the ferrites mass, and their reflections from the ideally-reflecting surfaces. It is pointed out that the reflected electromagnetic wave splits into two waves, having different amplitudes and coefficients of propagation. An analysis of the electromagnetic wave propagation at various angles with respect to the direction of the magnetic field is presented in this article. Two USSR references cited.

Institution: *Active members of the All-Union Scientific and Technical Society of Radio Engineering and Electric Communications imeni A. S. Popov, Moscow

Submitted : 1 Sep 1954

BONCH-BRUYEVICH, Mikhail Aleksandrovich, inzhener; PISTOL'KORS, A.A.;
VOLOGDIN, V.P. [deceased]; KUGUSHEV, A.M., professor; NIKIFIN, N.A.,
professor; OSTROUMOV, B.A., professor; OSTRYAKOV, P.A., professor
[deceased]; BONCH-BRUYEVICH, A.M., dotsent; ZENDEL', P.Ye.,
tekhnicheskiy redaktor

[A collection of works] Sobranie trudov. Moskva, Izd-vo Akademii nauk
SSSR, 1956. 526 p. (MLRA 9:10)

1. Chlen-korrespondent AN SSSR (for Bonch-Bruyevich, M.A., Pistol'kors,
Vologdin)
(Radio)
(Bonch-Bruyevich, Mikhail Aleksandrovich, 1888-1940)

PISTUNOV, A. I. For. Mbr., AS USSR.

"Modern antennas," a chapter in the book Radio and Electronics and Their
Technical Applications, by A. I. Berg, et al., Moscow, 1956.

Summary of chapter 171291

TERPIGOREV, A.M., akademik, red.; PISTOL'KORS, A.A., red.; RYLINA, Yu.V.,
tekhn.red.

[Terminology of radio wave propagation] Terminologiya rasprostra-
neniya radiovoln. Moskva, 1957. 25 p. (Sborniki rekomenduemykh
terminov, no.47) (MIRA 11:1)

1. Akademiya nauk SSSR. Komitet tekhnicheskoy terminologii.
2. ~~Chlen-korrespondent~~ AN SSSR (for Pistol'kors).
(Radio waves--Terminology)

BERG, A.I., akademik; VVEDENSKIY, B.A., akademik; VEKSHINSKIY, S.A., akademik; KOTEL'NIKOV, V.A., akademik; MINTS, A.L.; PISTOL'KORS, A.A.; SIFOROV, V.I.

Search, be daring, invent! Radio no.1:1 Ja '57. (MLRA 10:2)

1. Chlen-korrespondent AN SSSR (for Mints, Pistol'kors, Siforov).
(Amateur radio stations)

[illegible]

358

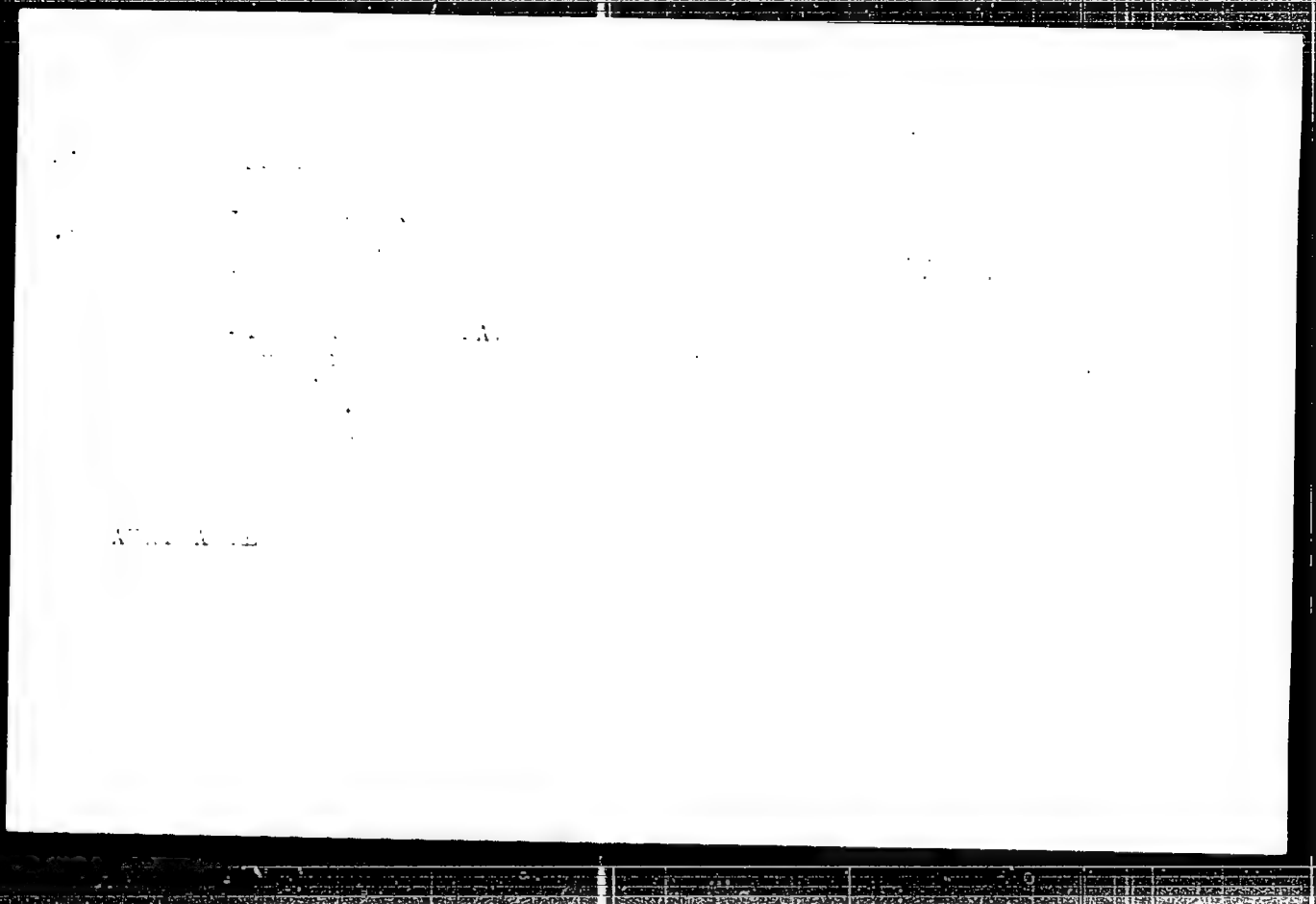
The first work was done by A. Ya. L. and G. Ya. L. in 1954. The results were published in the journal "Zhurnal Fizicheskoy Khimii". The second work was done by A. Ya. L. and G. Ya. L. in 1955. The results were published in the journal "Zhurnal Fizicheskoy Khimii". The third work was done by A. Ya. L. and G. Ya. L. in 1956. The results were published in the journal "Zhurnal Fizicheskoy Khimii". The fourth work was done by A. Ya. L. and G. Ya. L. in 1957. The results were published in the journal "Zhurnal Fizicheskoy Khimii". The fifth work was done by A. Ya. L. and G. Ya. L. in 1958. The results were published in the journal "Zhurnal Fizicheskoy Khimii". The sixth work was done by A. Ya. L. and G. Ya. L. in 1959. The results were published in the journal "Zhurnal Fizicheskoy Khimii". The seventh work was done by A. Ya. L. and G. Ya. L. in 1960. The results were published in the journal "Zhurnal Fizicheskoy Khimii". The eighth work was done by A. Ya. L. and G. Ya. L. in 1961. The results were published in the journal "Zhurnal Fizicheskoy Khimii". The ninth work was done by A. Ya. L. and G. Ya. L. in 1962. The results were published in the journal "Zhurnal Fizicheskoy Khimii". The tenth work was done by A. Ya. L. and G. Ya. L. in 1963. The results were published in the journal "Zhurnal Fizicheskoy Khimii".

USSR

1. The first part of the document is a letter from the Soviet Union to the United States, dated 1974. It is a letter of protest against the United States' actions in Vietnam. The letter is signed by the Soviet Minister of Foreign Affairs, Andrei Gromyko. The letter is in Russian and is translated into English. The letter is a formal document and is signed by a high-ranking official of the Soviet Union. The letter is a letter of protest against the United States' actions in Vietnam. The letter is signed by the Soviet Minister of Foreign Affairs, Andrei Gromyko. The letter is in Russian and is translated into English. The letter is a formal document and is signed by a high-ranking official of the Soviet Union.

"APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001341



APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R0013411

9.400~

8/109/60/005/07/006/024

E140/E163

AUTHORS: Pistol'kors, A.A., and Syuy Yan'-Shen.

TITLE: Free Electromagnetic Oscillations of a Spherical Resonator with Magnetised Ferrite Sphere in the Centre

PERIODICAL: Radiotekhnika i elektronika, Vol 5, No 7, 1960, pp 1085-1091 (USSR)

ABSTRACT: The theory of free electromagnetic oscillations of a spherical resonator with a small ferrite sphere at the centre, magnetised by a constant field, is studied. The resonance conditions of the system are investigated and expressions are derived for the decremental attenuation of the oscillations as a function of the half-width of the ferromagnetic resonance curve. The derivation is first carried out neglecting wall losses, the effect of which is then estimated. A new resonance mode is found. There are 1 figure and 3 references, of which 1 is English and 2 are Soviet.

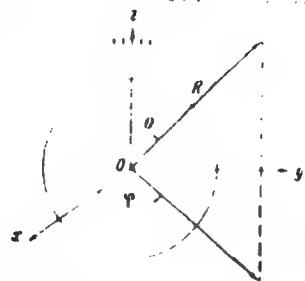
SUBMITTED: January 18, 1960

Card 1/1

14.2200

AUTHORS: Pistol'kors, A. A., Hs: Yet-sheng
 TITLE: Oscillations of a Small Gyrotropic Sphere in the Field of a Plane Wave
 PERIODICAL: Radiotekhnika i elektronika, 1980, Vol. 25, No. 1, pp. 1-14 (USSR)

ABSTRACT: The main subject of this study is excitation of oscillations in gyrotropic small radius (ferrite) spheres placed in the field of plane waves. Let a plane wave spread along the z -axis in the direction of the z -axis.



Carl J. ...

Oscillations of a Small Gyrotropic Sphere
in the Field of a Plane Wave

7138

SOVETSKAYA

For the case under discussion

$$u_1 = \sum_{n=0}^{\infty} a_n P_n(\cos \theta) \sin \omega t$$

$$u_2 = \sum_{n=0}^{\infty} b_n P_n(\cos \theta) \cos \omega t$$

where E_0 and H_0 are the electric and magnetic field
intensities of the wave; k is wave coefficient;
 a_n and b_n are the coefficients; r is a spherical radius function;
the first order; $P_n(\cos \theta)$ are Legendre polynomials.
The analysis is based on the solution given by Walker
for a magnetostatic problem (ref. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 21

Oscillations of a Small Spherical Sphere
in the Field of a Plane Wave

77188

1977-11-11

Ψ is defined as the Debye potential potential

$$\Psi = \frac{1}{r} \frac{\partial}{\partial r} \left(r \frac{\partial \psi}{\partial r} \right)$$

Potential Ψ being defined, Debye potential ψ for a wave, reflected from ferrite, may now be found. It is a spherical wave of transverse electrical type that has no radial component of the electrical field E_r . For exact determination of the diffraction problem, the reflected spherical wave of another type, i.e., the transverse magnetic wave must be found. This wave is determined by the Debye electrical potential ψ^e that may be obtained solving the problem of electrical field in ferrite. For this purpose initial equations are given in the form:

Card 4/14

Oscillations of a Small Gyromagnetic Sphere
in the Field of a Plane Wave

1974
1974-1-1-1

$$\text{rot } \vec{I} = \frac{1}{c} \frac{\partial \vec{b}}{\partial t}$$

$$\text{div } \vec{I} = 0$$

Magnitude of the induction $\vec{I}$ must be obtained from the solution of first part of problem of the magnetic field and Debye potential Φ . Analysis is made in two steps: (1) Excitation is explained of the magnetic field in the ferrite, as well as the amplitude of the reflected transverse electrical wave. (2) This is also explained for the electrical field in ferrite, as well as for the reflected transverse magnetic wave. For small k values, the field components are given in the form:

Card 5/14

Oscillations of a Small Gyrostatic Sphere
in the Field of a Plane Wave

1978
NOV 14-1-1-1

$$\begin{aligned} \frac{d^2 \theta}{dt^2} + \frac{1}{2} \frac{d\theta}{dt} &= \frac{1}{2} \frac{d\theta}{dt} \\ \frac{d^2 \theta}{dt^2} + \frac{1}{2} \frac{d\theta}{dt} &= \frac{1}{2} \frac{d\theta}{dt} \end{aligned} \quad (7)$$

where potential

$$V_1 = \frac{1}{2} \sum_{n=0}^{\infty} \frac{1}{n!} \frac{d^n V_1}{dt^n} \cos(n\theta)$$

For small θ , V_1 is the potential of the magnetic field
of the reflected wave, which is defined in the similar
way as in potential.

$$V_2 = \frac{1}{2} \sum_{n=0}^{\infty} \frac{1}{n!} \frac{d^n V_2}{dt^n} \cos(n\theta)$$

Card 6/14

Contributions of a Small Group of ...
in the Field of ...

...
...

The ... system of ...
...
...
...
...
...
...
...
...
...

$$... = \sum_{i=1}^n \left| \begin{matrix} p_{11}^i & p_{12}^i & \dots & p_{1n}^i \\ p_{21}^i & p_{22}^i & \dots & p_{2n}^i \\ \vdots & \vdots & \ddots & \vdots \\ p_{n1}^i & p_{n2}^i & \dots & p_{nn}^i \end{matrix} \right| \cdot e^{-i\theta_i} \quad (11)$$

... (...) ...
...

...

U. S. DEPARTMENT OF STATE
OFFICE OF THE SECRETARY

MEMORANDUM
FOR THE SECRETARY
SUBJECT: [Illegible]

[Illegible text block]

[Illegible text block]

[Illegible text block]

[Illegible text block]

On 11/11/11
in the field

Oscillation of a Small Dipole in a Uniform
in the Field of a Plane Wave

$$\Delta \vec{r} = \frac{1}{c} \frac{d\vec{r}}{dt}$$

This problem is a particular case of the general problem of the oscillation of a small dipole in a uniform field of a plane wave. The vector $\vec{r}$ is in the plane of the wave. Solving these three equations and taking into account the system of coordinates, we obtain the following expression for the vector $\vec{r}$ of the dipole moment:

$$\vec{r} = \frac{1}{c} \frac{d\vec{r}}{dt} = \frac{1}{c} \frac{d}{dt} \left(\frac{1}{\sin \theta} \frac{d\vec{r}}{dt} \right) = \frac{1}{c} \frac{d}{dt} \left(\frac{1}{\sin \theta} \frac{d\vec{r}}{dt} \right)$$

for $r = 0$

Card 11 14

$$\vec{r} = \frac{1}{c} \frac{d\vec{r}}{dt} = \frac{1}{c} \frac{d}{dt} \left(\frac{1}{\sin \theta} \frac{d\vec{r}}{dt} \right) = \frac{1}{c} \frac{d}{dt} \left(\frac{1}{\sin \theta} \frac{d\vec{r}}{dt} \right)$$

Oscillations of a Small Gyrotron in a
in the Field of a Plane Wave

1977, 1978

Here ϵ is the permittivity of the medium

$$\sum_{i=1}^N$$

($\epsilon_1 + \epsilon_2$), where ϵ_1 is the permittivity of the

medium, and ϵ_2 is the permittivity of the

$$\epsilon_2 = \sum_{i=1}^N \epsilon_i$$

where ϵ_i is the permittivity of the medium

$$\Psi = \sum_{i=1}^N F_i \Psi_i$$

where Ψ_i is the permittivity of the medium

the medium, Ψ_i is the permittivity of the

medium, and Ψ_i is the permittivity of the

medium, and Ψ_i is the permittivity of the

medium, and Ψ_i is the permittivity of the

medium, and Ψ_i is the permittivity of the

medium, and Ψ_i is the permittivity of the

Carl

On 11/11/61, the following information was received from the
in the form of a letter:

On 11/11/61, the following information was received from the
in the form of a letter:

On 11/11/61, the following information was received from the
in the form of a letter:

On 11/11/61, the following information was received from the
in the form of a letter:

SUBMITTED:

MARKOV, Grigoriy Timofeyevich. Prinimali uchastiye: TERESHIN, O.N., dotsent; VASIL'YEV, Ye.N., dotsent; DUPLAKOV, D.A., aspirant; SAZONOV, D.M., aspirant; MOSOV, O.N., inzh. PISTOL'KORS, A.A., retsentsent; DOLUKHANOV, M.P., prof., retsentsent; KOCHERZHEVSKIY, O.N., dotsent, red.; VORONIN, K.P., tekhn.red.

[Antennas] Antenny. Moskva, Gos.energ.isd-vo, 1960. 534 p.
(MIRA 14:4)

1. Chlen-korrespondent AN SSSR (for Pistol'kors).
(Radio--Antennas)

PISTOL 'BURS'; A.A

FIGURE 1: BUREAU OF AERONAUTICS 828/73135

Technical description of the device and its operation in the form of a report.

100 Let us have ready-made A.A. Papers, publications, etc. (One hundredth anniversary of the birth of A.A. Paper, American Academy of Sciences) [Name] [Date of birth, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980, 1990, 2000, 2010, 2020, 2030, 2040, 2050, 2060, 2070, 2080, 2090, 2100, 2110, 2120, 2130, 2140, 2150, 2160, 2170, 2180, 2190, 2200, 2210, 2220, 2230, 2240, 2250, 2260, 2270, 2280, 2290, 2300, 2310, 2320, 2330, 2340, 2350, 2360, 2370, 2380, 2390, 2400, 2410, 2420, 2430, 2440, 2450, 2460, 2470, 2480, 2490, 2500, 2510, 2520, 2530, 2540, 2550, 2560, 2570, 2580, 2590, 2600, 2610, 2620, 2630, 2640, 2650, 2660, 2670, 2680, 2690, 2700, 2710, 2720, 2730, 2740, 2750, 2760, 2770, 2780, 2790, 2800, 2810, 2820, 2830, 2840, 2850, 2860, 2870, 2880, 2890, 2900, 2910, 2920, 2930, 2940, 2950, 2960, 2970, 2980, 2990, 3000, 3010, 3020, 3030, 3040, 3050, 3060, 3070, 3080, 3090, 3100, 3110, 3120, 3130, 3140, 3150, 3160, 3170, 3180, 3190, 3200, 3210, 3220, 3230, 3240, 3250, 3260, 3270, 3280, 3290, 3300, 3310, 3320, 3330, 3340, 3350, 3360, 3370, 3380, 3390, 3400, 3410, 3420, 3430, 3440, 3450, 3460, 3470, 3480, 3490, 3500, 3510, 3520, 3530, 3540, 3550, 3560, 3570, 3580, 3590, 3600, 3610, 3620, 3630, 3640, 3650, 3660, 3670, 3680, 3690, 3700, 3710, 3720, 3730, 3740, 3750, 3760, 3770, 3780, 3790, 3800, 3810, 3820, 3830, 3840, 3850, 3860, 3870, 3880, 3890, 3900, 3910, 3920, 3930, 3940, 3950, 3960, 3970, 3980, 3990, 4000, 4010, 4020, 4030, 4040, 4050, 4060, 4070, 4080, 4090, 4100, 4110, 4120, 4130, 4140, 4150, 4160, 4170, 4180, 4190, 4200, 4210, 4220, 4230, 4240, 4250, 4260, 4270, 4280, 4290, 4300, 4310, 4320, 4330, 4340, 4350, 4360, 4370, 4380, 4390, 4400, 4410, 4420, 4430, 4440, 4450, 4460, 4470, 4480, 4490, 4500, 4510, 4520, 4530, 4540, 4550, 4560, 4570, 4580, 4590, 4600, 4610, 4620, 4630, 4640, 4650, 4660, 4670, 4680, 4690, 4700, 4710, 4720, 4730, 4740, 4750, 4760, 4770, 4780, 4790, 4800, 4810, 4820, 4830, 4840, 4850, 4860, 4870, 4880, 4890, 4900, 4910, 4920, 4930, 4940, 4950, 4960, 4970, 4980, 4990, 5000, 5010, 5020, 5030, 5040, 5050, 5060, 5070, 5080, 5090, 5100, 5110, 5120, 5130, 5140, 5150, 5160, 5170, 5180, 5190, 5200, 5210, 5220, 5230, 5240, 5250, 5260, 5270, 5280, 5290, 5300, 5310, 5320, 5330, 5340, 5350, 5360, 5370, 5380, 5390, 5400, 5410, 5420, 5430, 5440, 5450, 5460, 5470, 5480, 5490, 5500, 5510, 5520, 5530, 5540, 5550, 5560, 5570, 5580, 5590, 5600, 5610, 5620, 5630, 5640, 5650, 5660, 5670, 5680, 5690, 5700, 5710, 5720, 5730, 5740, 5750, 5760, 5770, 5780, 5790, 5800, 5810, 5820, 5830, 5840, 5850, 5860, 5870, 5880, 5890, 5900, 5910, 5920, 5930, 5940, 5950, 5960, 5970, 5980, 5990, 6000, 6010, 6020, 6030, 6040, 6050, 6060, 6070, 6080, 6090, 6100, 6110, 6120, 6130, 6140, 6150, 6160, 6170, 6180, 6190, 6200, 6210, 6220, 6230, 6240, 6250, 6260, 6270, 6280, 6290, 6300, 6310, 6320, 6330, 6340, 6350, 6360, 6370, 6380, 6390, 6400, 6410, 6420, 6430, 6440, 6450, 6460, 6470, 6480, 6490, 6500, 6510, 6520, 6530, 6540, 6550, 6560, 6570, 6580, 6590, 6600, 6610, 6620, 6630, 6640, 6650, 6660, 6670, 6680, 6690, 6700, 6710, 6720, 6730, 6740, 6750, 6760, 6770, 6780, 6790, 6800, 6810, 6820, 6830, 6840, 6850, 6860, 6870, 6880, 6890, 6900, 6910, 6920, 6930, 6940, 6950, 6960, 6970, 6980, 6990, 7000, 7010, 7020, 7030, 7040, 7050, 7060, 7070, 7080, 7090, 7100, 7110, 7120, 7130, 7140, 7150, 7160, 7170, 7180, 7190, 7200, 7210, 7220, 7230, 7240, 7250, 7260, 7270, 7280, 7290, 7300, 7310, 7320, 7330, 7340, 7350, 7360, 7370, 7380, 7390, 7400, 7410, 7420, 7430, 7440, 7450, 7460, 7470, 7480, 7490, 7500, 7510, 7520, 7530, 7540, 7550, 7560, 7570, 7580, 7590, 7600, 7610, 7620, 7630, 7640, 7650, 7660, 7670, 7680, 7690, 7700, 7710, 7720, 7730, 7740, 7750, 7760, 7770, 7780, 7790, 7800, 7810, 7820, 7830, 7840, 7850, 7860, 7870, 7880, 7890, 7900, 7910, 7920, 7930, 7940, 7950, 7960, 7970, 7980, 7990, 8000, 8010, 8020, 8030, 8040, 8050, 8060, 8070, 8080, 8090, 8100, 8110, 8120, 8130, 8140, 8150, 8160, 8170, 8180, 8190, 8200, 8210, 8220, 8230, 8240, 8250, 8260, 8270, 8280, 8290, 8300, 8310, 8320, 8330, 8340, 8350, 8360, 8370, 8380, 8390, 8400, 8410, 8420, 8430, 8440, 8450, 8460, 8470, 8480, 8490, 8500, 8510, 8520, 8530, 8540, 8550, 8560, 8570, 8580, 8590, 8600, 8610, 8620, 8630, 8640, 8650, 8660, 8670, 8680, 8690, 8700, 8710, 8720, 8730, 8740, 8750, 8760, 8770, 8780, 8790, 8800, 8810, 8820, 8830, 8840, 8850, 8860, 8870, 8880, 8890, 8900, 8910, 8920, 8930, 8940, 8950, 8960, 8970, 8980, 8990, 9000, 9010, 9020, 9030, 9040, 9050, 9060, 9070, 9080, 9090, 9100, 9110, 9120, 9130, 9140, 9150, 9160, 9170, 9180, 9190, 9200, 9210, 9220, 9230, 9240, 9250, 9260, 9270, 9280, 9290, 9300, 9310, 9320, 9330, 9340, 9350, 9360, 9370, 9380, 9390, 9400, 9410, 9420, 9430, 9440, 9450, 9460, 9470, 9480, 9490, 9500, 9510, 9520, 9530, 9540, 9550, 9560, 9570, 9580, 9590, 9600, 9610, 9620, 9630, 9640, 9650, 9660, 9670, 9680, 9690, 9700, 9710, 9720, 9730, 9740, 9750, 9760, 9770, 9780, 9790, 9800, 9810, 9820, 9830, 9840, 9850, 9860, 9870, 9880, 9890, 9900, 9910, 9920, 9930, 9940, 9950, 9960, 9970, 9980, 9990, 10000, 10010, 10020, 10030, 10040, 10050, 10060, 10070, 10080, 10090, 10100, 10110, 10120, 10130, 10140, 10150, 10160, 10170, 10180, 10190, 10200, 10210, 10220, 10230, 10240, 10250, 10260, 10270, 10280, 10290, 10300, 10310, 10320, 10330, 10340, 10350, 10360, 10370, 10380, 10390, 10400, 10410, 10420, 10430, 10440, 10450, 10460, 10470, 10480, 10490, 10500, 10510, 10520, 10530, 10540, 10550, 10560, 10570, 10580, 10590, 10600, 10610, 10620, 10630, 10640, 10650, 10660, 10670, 10680, 10690, 10700, 10710, 10720, 10730, 10740, 10750, 10760, 10770, 10780, 10790, 10800, 10810, 10820, 10830, 10840, 10850, 10860, 10870, 10880, 10890, 10900, 10910, 10920, 10930, 10940, 10950, 10960, 10970, 10980, 10990, 11000, 11010, 11020, 11030, 11040, 11050, 11060, 11070, 11080, 11090, 11100, 11110, 11120, 11130, 11140, 11150, 11160, 11170, 11180, 11190, 11200, 11210, 11220, 11230, 11240, 11250, 11260, 11270, 11280, 11290, 11300, 11310, 11320, 11330, 11340, 11350, 11360, 11370, 11380, 11390, 11400, 11410, 11420, 11430, 11440, 11450, 11460, 11470, 11480, 11490, 11500, 11510, 11520, 11530, 11540, 11550, 11560, 11570, 11580, 11590, 11600, 11610, 11620, 11630, 11640, 11650, 11660, 11670, 11680, 11690, 11700, 11710, 11720, 11730, 11740, 11750, 11760, 11770, 11780, 11790, 11800, 11810, 11820, 11830, 11840, 11850, 11860, 11870, 11880, 11890, 11900, 11910, 11920, 11930, 11940, 11950, 11960, 11970, 11980, 11990, 12000, 12010, 12020, 12030, 12040, 12050, 12060, 12070, 12080, 12090, 12100, 12110, 12120, 12130, 12140, 12150, 12160, 12170, 12180, 12190, 12200, 12210, 12220, 12230, 12240, 12250, 12260, 12270, 12280, 12290, 12300, 12310, 12320, 12330, 12340, 12350, 12360, 12370, 12380, 12390, 12400, 12410, 12420, 12430, 12440, 12450, 12460, 12470, 12480, 12490, 12500, 12510, 12520, 12530, 12540, 12550, 12560, 12570, 12580, 12590, 12600, 12610, 12620, 12630, 12640, 12650, 12660, 12670, 12680, 12690, 12700, 12710, 12720, 12730, 12740, 12750, 12760, 12770, 12780, 12790, 12800, 12810, 12820, 12830, 12840, 12850, 12860, 12870, 12880, 12890, 12900, 12910, 12920, 12930, 12940, 12950, 12960, 12970, 12980, 12990, 13000, 13010, 13020, 13030, 13040, 13050, 13060, 13070, 13080, 13090, 13100, 13110, 13120, 13130, 13140, 13150, 13160, 13170, 13180, 13190, 13200, 13210, 13220, 13230, 13240, 13250, 13260, 13270, 13280, 13290, 13300, 13310, 13320, 13330, 13340, 13350, 13360, 13370, 13380, 13390, 13400, 13410, 13420, 13430, 13440, 13450, 13460, 13470, 13480, 13490, 13500, 13510, 13520, 13530, 13540, 13550, 13560, 13570, 13580, 13590, 13600, 13610, 13620, 13630, 13640, 13650, 13660, 13670, 13680, 13690, 13700, 13710, 13720, 13730, 13740, 13750, 13760, 13770, 13780, 13790, 13800, 13810, 13820, 13830, 13840, 13850, 13860, 13870, 13880, 13890, 13900, 13910, 13920, 13930, 13940, 13950, 13960, 13970, 13980, 13990, 14000, 14010, 14020, 14030, 14040, 14050, 14060, 14070, 14080, 14090, 14100, 14110, 14120, 14130, 14140, 14150, 14160, 14170, 14180, 14190, 14200, 14210, 14220, 14230, 14240, 14250, 14260, 14270, 14280, 14290, 14300, 14310, 14320, 14330, 14340, 14350, 14360, 14370, 14380, 14390, 14400, 14410, 14420, 14430, 14440, 14450, 14460, 14470, 14480, 14490, 14500, 14510, 14520, 14530, 14540, 14550, 14560, 14570, 14580, 14590, 14600, 14610, 14620, 14630, 14640, 14650, 14660, 14670, 14680, 14690, 14700, 14710, 14720, 14730, 14740, 14750, 14760, 14770, 14780, 14790, 14800, 14810, 14820, 14830, 14840, 14850, 14860, 14870, 14880, 14890, 14900, 14910, 14920, 14930, 14940, 14950, 14960, 14970, 14980, 14990, 15000, 15010, 15020, 15030, 15040, 15050, 15060, 15070, 15080, 15090, 15100, 15110, 15120, 15130, 15140, 15150, 15160, 15170, 15180, 15190, 15200, 15210, 15220, 15230, 15240, 15250, 15260, 15270, 15280, 15290, 15300, 15310, 15320, 15330, 15340, 15350, 15360, 15370, 15380, 15390, 15400, 15410, 15420, 15430, 15440, 15450, 15460, 15470, 15480, 15490, 15500, 15510, 15520, 15530, 15540, 15550, 15560, 15570, 15580, 15590, 15600, 15610, 15620, 15630, 15640, 15650, 15660, 15670, 15680, 15690, 15700, 15710, 15720, 15730, 15740, 15750, 15760, 15770, 15780, 15790, 15800, 15810, 15820, 15830, 15840, 15850, 15860, 15870, 15880, 15890, 15900, 15910, 15920, 15930, 15940, 15950, 15960, 15970, 15980, 15990, 16000, 16010, 16020, 16030, 16040, 16050, 16060, 16070, 16080, 16090, 16100, 16110, 16120, 16130, 16140, 16150, 16160, 16170, 16180, 16190, 16200, 16210, 16220, 16230, 16240, 16250, 16260, 16270, 16280, 16290, 16300, 16310, 16320, 16330, 16340, 16350, 16360, 16370, 16380, 16390, 16400, 16410, 16420, 16430, 16440, 16450, 16460, 16470, 16480, 16490, 16500, 16510, 16520, 16530, 16540, 16550, 16560, 16570, 16580, 16590, 16600, 16610, 16620, 16630, 16640, 16650, 16660, 16670, 16680, 16690, 16700, 16710, 16720, 16730, 16740, 16750, 16760, 16770, 16780, 16790, 16800, 16810, 16820, 16830, 16840, 16850, 16860, 16870, 16880, 16890, 16900, 16910, 16920, 16930, 16940, 16950, 16960, 16970, 16980, 16990, 17000, 17010, 17020, 17030, 17040, 17050, 17060, 17070, 17080, 17090, 17100, 17110, 17120, 17130, 17140, 17150, 17160, 17170, 17180, 17190, 17200, 17210, 17220, 17230, 17240, 17250, 17260, 17270, 17280, 17290, 17300, 17310, 17320, 17330, 17340, 17350, 17360, 17370, 17380, 17390, 17400, 17410, 17420, 17430, 17440, 17450, 17460, 17470, 17480, 17490, 17500, 17510, 17520, 17530, 17540, 17550, 17560, 17570, 17580, 17590, 17600, 17610, 17620, 17630, 17640, 17650, 17660, 17670, 17680, 17690, 17700, 17710, 17720, 17730, 17740, 17750, 17760, 17770, 17780, 17790, 17800, 17810, 17820, 17830, 17840, 17850, 17860, 17870, 17880, 17890, 17900, 17910, 17920, 17930, 17940, 17950, 17960, 17970, 17980, 17990, 18000, 18010, 18020, 18030, 18040, 18050, 18060, 18070, 18080, 18090, 18100, 18110, 18120, 18130, 18140, 18150, 18160, 18170, 18180, 18190, 18200, 18210, 18220, 18230, 18240, 18250, 18260, 18270, 18280, 18290, 18300, 18310, 18320, 18330, 18340, 18350, 18360, 18370, 18380, 18390, 18400, 18410, 18420, 18430, 18440, 18450, 18460, 18470, 18480, 18490, 18500, 18510, 18520, 18530, 18540, 18550, 18560, 18570, 18580, 18590, 18600, 18610, 18620, 18630, 18640, 18650, 18660, 18670, 18680, 18690, 18700, 18710, 18720, 18730, 18740, 18750, 18760, 18770, 18780, 18790, 18800, 18810, 18820, 18830, 18840, 18850, 18860, 18870, 18880, 18890, 18900, 18910, 18920, 18930, 18940, 18950, 18960, 18970, 18980, 18990, 19000, 19010, 19020, 19030, 19040, 19050, 19060, 19070, 19080, 19090, 19100, 19110, 19120, 19130, 19140, 19150, 19160, 19170, 19180, 19190, 19200, 19210, 19220, 19230, 19240, 19250, 19260, 19270, 19280, 19290, 19300, 19310, 19320, 19330, 19340, 19350, 19360, 19370, 19380, 19390, 19400, 19410, 19420, 19430, 19440, 19450, 19460, 19470, 19480, 19490, 19500, 19510, 19520, 19530, 19540, 19550, 19560, 19570, 19580, 19590, 19600, 19610, 19620, 19630, 19640, 19650, 19660, 19670, 19680, 19690, 19700, 19710, 19720, 19730, 19740, 19750, 19760, 19770, 19780, 19790, 19800, 19810, 19820, 19830, 19840, 19850, 19860, 19870, 19880, 19890, 19900, 19910, 19920, 19930, 19940, 19950, 19960, 19970, 19980, 19990, 20000, 20010, 20020, 20030, 20040, 20050, 20060, 20070, 20080, 20090, 20100, 20110, 20120, 20130, 20140, 20150, 20160, 20170, 20180, 20190, 20200, 20210, 20220, 20230, 20240, 20250, 2

AUTHORS: Pistol'kors, A.A., Kaplun V.A. and Knyazeva, L.V. SOV/109-4-6-1/L-7

TITLE: Diffraction of Electromagnetic Waves at a Dielectric or a Semiconductor Sheet (O difraktsii elektromagnitnykh voln u dielektricheskogo ili poluprovodyashchego lista)

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 6, pp 911 - 919 (USSR)

ABSTRACT: The system considered is illustrated in the diagram of Figure 1. For the purpose of analysis it is assumed that the surface waves can be neglected. The external surface of the sheet is infinite along the axis z and coincides with the plane $x = 0$. The surface is limited in the direction of the axis y by co-ordinates $y = 0$ and $y = b$. A plane wave propagates from the upper semi-space and forms an angle φ_0 with the plane $x = 0$. It is necessary to find the field at a point M which is situated in the lower semi-space. For this purpose the elementary fields at point M , due to the electric and magnetic currents in the plane $x = 0$, should be added. If the amplitude of the plane wave is unity, it is necessary

Card 1/5

SOV/109 4-6-1/27
 Diffraction of Electromagnetic Waves at a Dielectric or a Semi-conductor Sheet

to introduce a factor $Te^{-\gamma}$ which characterises the attenuation of the wave during its passage through the sheet and the accompanying phase shift. The electric field at point M is given by the sum of three integrals

$$E = \int_{-\infty}^0 F(E_t, H_t, y) dy + Te^{-\gamma} \int_0^b F(E_t, H_t, y) dy + \int_b^{\infty} F(E_t, H_t, y) dy \quad (1)$$

where E_t and H_t are the tangential components of the electric and magnetic field at the plane $x = 0$; F is the function which takes into account the effect of the plane $x = 0$. Eq (1) can also be written as

Card2/5

SOV/109-4-6-1/27
Diffraction of Electromagnetic Waves at a Dielectric or a Semi-conductor Sheet

where $Me^{-i\psi} = 1 - Te^{-i\psi}$. If the electrical vector of the plane wave is parallel to the axis z (see Figure 1) the electric and magnetic field components are given by Eqs (3). The fields at the external surface of the dielectric layer are given by Eqs (4). The electric field at point M can be evaluated from Eq (5). The z -component of this field is given by Eq (6). This can also be written as Eq (9) or Eq (10). The integral of Eq (10) can be evaluated approximately by employing the stationary-phase method. The first approximation of the integral is given by Eq (12). The final expression for E_z component is, therefore, given by Eq (18), where the integral with respect to t can be evaluated from one of Eqs (17) depending on the position of point M with respect to the shadow. It is shown in the appendix to the paper that Eq (18) is valid also for $y < 0$, i.e., when point M lies in the third quadrant. The variable t in Eq (18) is defined by the first equation on p. 915. The magnetic field components can easily be evaluated by

Card 3/5

SOV/109 4-6-1/27
Diffraction of Electromagnetic Waves at a Dielectric or a Semi-conductor Sheet

using Eq (10). The above formulae are employed to investigate two special cases. In the first case, the wave does not undergo any attenuation but is delayed by half a period, i.e. $T = 1$ and $\psi = \pi$. If point M is to the right of the boundary and the shadow the electric field is given by the fifth equation on page 917. On the other hand, for a point situated to the left of the boundary, the field is given by the last equation on p. 917. If the sheet has a finite width and the observation point is symmetrical with respect to the boundaries, the field may be evaluated by using the variables defined by the first three equations on p. 918. The theory was verified experimentally by using a sheet made of plexiglass (see Figure 4). The experiment was carried out at the wave length of 3.2 cm and the sheet had dimensions of 100 x 100 x 2 cm. The sheet was situated on a rotating aluminium screen. A probe was placed in the centre of the screen (Figure 4). The experimental results are plotted

Card 4/5

SOV/109-4-6-1/27
Diffraction of Electromagnetic Waves at a Dielectric or a Semi-conductor Sheet

in Figure 5 ('dashed' curve) together with the theoretical values (solid curve). It is seen that the theory is in good agreement with the experimental data. There are 5 figures and 4 references, 3 of which are Soviet and 1 English.

SUBMITTED: July 9, 1958

Card 5/5

ПРОГРАММА РАБОТЫ НАУЧНОЙ СЕССИИ
ПЛЕИАРНЫЕ ЗАСЕДАНИЯ
8 июня
в 17 часов
Открытие сессии

А. И. Мухомов
В течение пленарных заседаний будут заслушаны отчёты о работе научных групп, представляющих различные институты Академии Наук СССР.

В. В. Мухомов
Приветствие участников сессии и отчёты о работе группы.

II часть
(с 10 до 14 часов)

В. В. Мухомов
В течение пленарных заседаний будут заслушаны отчёты о работе научных групп, представляющих различные институты Академии Наук СССР.

А. И. Мухомов
Приветствие участников сессии и отчёты о работе группы.

А. И. Мухомов
Приветствие участников сессии и отчёты о работе группы.

report submitted for the Scientific Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications in A. S. Paper (VUBS), Moscow,
8-10 June.

В. А. Боровой А. В. Шенников 1) Система автоматического управления движением объектов В. А. Боровой 11 июля (10 и 15 часов) Система автоматического управления движением объектов В. А. Боровой А. В. Шенников Протокол работы группы по разработке проекта В. А. Боровой А. В. Шенников А. В. Шенников Протокол работы группы по разработке проекта	В. А. Боровой А. В. Шенников Протокол работы группы по разработке проекта А. В. Шенников В. А. Боровой 11 июля (10 и 15 часов) Система автоматического управления движением объектов В. А. Боровой А. В. Шенников Протокол работы группы по разработке проекта В. А. Боровой А. В. Шенников А. В. Шенников Протокол работы группы по разработке проекта
---	---

report submitted for the Confidential Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications No. A. G. Paper (VRSSE), Moscow,
6-10 June, 1959

NADENENKO, Sergey Ivanovich; PISTOL'KORS, A.A., ratsenzent; MARKOV, G.T.,
prof., ratsenzent; KOCHERZHEVSKIY, G.N., kand.tekhn.nauk, otv.
red.; VORONOVA, A.I., red.; SHEPER, G.I., tekhn.red.

[Antennas] Antenny. Moskva, Gos.izd-vo lit-ry po voprosam
svyazi i radio, 1959. 550 p. (MIRA 12:11)

1. Chlen-korrespondent AN SSSR (for Pistol'kors).
(Antennas (Electronics))

PISTOL'KORS, A. A.

[Transactions of the] Conference on the Occasion of the 40th Anniversary of the Nizhny-Novgorod Radio Laboratory 1931-1971
 V. I. Lenin (22-24 May at Gor'kiy,) (Radiotekhnika, 13:8, 71-9, '58)

K. M. Kosikov reported in short on two important discoveries of M. A. Bonch-Bruyevich in the field of the propagation of radio waves (1932-1933).-

A. A. Pistol'kors, B. A. Ostroumov, N. N. Izotov, and V. I. Ge spoke about the Tver' radio station as well as of the Nizhny-Novgorod Radio Laboratory.

The participants in the conference visited the laboratory establishments of the NIRFI at Gor'kiy State University where they became acquainted with the observations made according to the program of the International Geophysical Year.

Aboard the motor ship "Ukraina" by which the participants in the conference sailed to Gor'kiy a readers' conference of the periodical "Radiotekhnika" was held. It was arranged by the Chief Editor M. R. Reznikov and the First Editor R.D. Mel'nikovskaya. M. R. Reznikov spoke about the activity of the editorial staff. Ya. M. Sarin (Moscow) stressed the fact that the periodical supplies only little information on the problems turning up in industry. I. M. Kogan (Moscow) was of opinion that more articles concerning applied theory should be dealt with. A. V. Borianov (Leningrad) suggested to publish a special

Card: ~~3/4~~

1. The purpose of this report is to provide a summary of the results of the investigation of the cause of the failure of the engine of the aircraft on 10/10/61.

2. The investigation was conducted by the engine manufacturer, the engine operator, and the engine inspector.

3. The engine operator reported that the engine failed at approximately 10:00 AM on 10/10/61. The engine inspector reported that the engine failed at approximately 10:00 AM on 10/10/61.

4. The engine manufacturer reported that the engine failed at approximately 10:00 AM on 10/10/61. The engine manufacturer reported that the engine failed at approximately 10:00 AM on 10/10/61.

5. The engine operator reported that the engine failed at approximately 10:00 AM on 10/10/61. The engine operator reported that the engine failed at approximately 10:00 AM on 10/10/61.

6. The engine inspector reported that the engine failed at approximately 10:00 AM on 10/10/61. The engine inspector reported that the engine failed at approximately 10:00 AM on 10/10/61.

7. The engine manufacturer reported that the engine failed at approximately 10:00 AM on 10/10/61. The engine manufacturer reported that the engine failed at approximately 10:00 AM on 10/10/61.

8. The engine operator reported that the engine failed at approximately 10:00 AM on 10/10/61. The engine operator reported that the engine failed at approximately 10:00 AM on 10/10/61.

9. The engine inspector reported that the engine failed at approximately 10:00 AM on 10/10/61. The engine inspector reported that the engine failed at approximately 10:00 AM on 10/10/61.

10. The engine manufacturer reported that the engine failed at approximately 10:00 AM on 10/10/61. The engine manufacturer reported that the engine failed at approximately 10:00 AM on 10/10/61.

1. Research of Electrical ...
2. Research of Electrical ...

3. Research of Electrical ...
4. Research of Electrical ...
5. Research of Electrical ...
6. Research of Electrical ...
7. Research of Electrical ...
8. Research of Electrical ...
9. Research of Electrical ...
10. Research of Electrical ...
11. Research of Electrical ...
12. Research of Electrical ...
13. Research of Electrical ...
14. Research of Electrical ...
15. Research of Electrical ...
16. Research of Electrical ...
17. Research of Electrical ...
18. Research of Electrical ...
19. Research of Electrical ...
20. Research of Electrical ...
21. Research of Electrical ...
22. Research of Electrical ...
23. Research of Electrical ...
24. Research of Electrical ...
25. Research of Electrical ...
26. Research of Electrical ...
27. Research of Electrical ...
28. Research of Electrical ...
29. Research of Electrical ...
30. Research of Electrical ...
31. Research of Electrical ...
32. Research of Electrical ...
33. Research of Electrical ...
34. Research of Electrical ...
35. Research of Electrical ...
36. Research of Electrical ...
37. Research of Electrical ...
38. Research of Electrical ...
39. Research of Electrical ...
40. Research of Electrical ...
41. Research of Electrical ...
42. Research of Electrical ...
43. Research of Electrical ...
44. Research of Electrical ...
45. Research of Electrical ...
46. Research of Electrical ...
47. Research of Electrical ...
48. Research of Electrical ...
49. Research of Electrical ...
50. Research of Electrical ...
51. Research of Electrical ...
52. Research of Electrical ...
53. Research of Electrical ...
54. Research of Electrical ...
55. Research of Electrical ...
56. Research of Electrical ...
57. Research of Electrical ...
58. Research of Electrical ...
59. Research of Electrical ...
60. Research of Electrical ...
61. Research of Electrical ...
62. Research of Electrical ...
63. Research of Electrical ...
64. Research of Electrical ...
65. Research of Electrical ...
66. Research of Electrical ...
67. Research of Electrical ...
68. Research of Electrical ...
69. Research of Electrical ...
70. Research of Electrical ...
71. Research of Electrical ...
72. Research of Electrical ...
73. Research of Electrical ...
74. Research of Electrical ...
75. Research of Electrical ...
76. Research of Electrical ...
77. Research of Electrical ...
78. Research of Electrical ...
79. Research of Electrical ...
80. Research of Electrical ...
81. Research of Electrical ...
82. Research of Electrical ...
83. Research of Electrical ...
84. Research of Electrical ...
85. Research of Electrical ...
86. Research of Electrical ...
87. Research of Electrical ...
88. Research of Electrical ...
89. Research of Electrical ...
90. Research of Electrical ...
91. Research of Electrical ...
92. Research of Electrical ...
93. Research of Electrical ...
94. Research of Electrical ...
95. Research of Electrical ...
96. Research of Electrical ...
97. Research of Electrical ...
98. Research of Electrical ...
99. Research of Electrical ...
100. Research of Electrical ...

RESEARCHED: July 1, 1964

Card 1

PISTOL'KORS, A.A.; MARSHAK, M.L.

Reflection and refraction of electromagnetic waves in a rectangular wave guide on the boundary of air and ferrite. Izv.vys.ucheb.zav.; radiotekh. no.5:594-598 S-O '58. (MIRA 12:1)

1. Rekomendovano Institutom radiotekhniki i elektroniki AN SSSR. (Radio waves)

AUTHOR: Pistol'kors, A. A. Corresponding Member 30-58 4-11 41
of the AS USSR

TITLE: Problems of the Technique of Ultra-High Frequencies
(Problemy tekhniki sverkhvysokikh chastot)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 4, pp 74-75
(USSR)

ABSTRACT: From October 21-26, 1957 the International Congress on Circuits and Antennas of Ultra-High Frequencies took place in Paris. It was called by the French Scientific Technical Society of Radio Engineers with the trade unions and radio technical firms taking part in it. In June 1956 the same organizers held a Congress on the Electronics of Ultra-High Frequencies. 166 reports were delivered. The meetings were simultaneously organized in 5 excellently furnished subterranean auditories of the National Conservatory for Arts and Trade. In a small exhibition a clystron calculated for a maximum power of 30 MW and an average of 20 kW attracted great attention. The topics of the lectures were manifold, the greatest interest was attracted by reports on the

Card 1/3

Problems of the Technique of Ultra-High Frequencies

30-58-4-13/44

use of ferrites and wave transmission over great distances. The attention of radio specialists is at present directed to the new possibilities to generate oscillations of ultra-high frequencies by means of ferrites as well as to amplify them and to transform the frequency by such means. Only one report by the American F.R. Mogentaler was devoted to this topic, although, as the author of this paper could learn from discussions, such kind of work is carried out on an extremely wide basis in the States. The Soviet reports on theoretical works and experiments in this field impressed the audience. The author regrets that no reports on the results of American research in this field were given. The Soviet delegation had the possibility to speak with French specialists as well as to visit the Laboratory for the Application of Magnetism in Bel'vyu. The author of this paper was impressed by the scale and the accuracy of the works conducted there and he mentions that the researchers there had more than 20 furnaces for various burning conditions at their disposal. Finally the aut or mentions the good organization of the congress as well as the friendly atmosphere there, which was

Card 2/3

very much favorable for establishing contacts.

1. High frequency communication systems—Theory

Card 3/3

AUTHOR Pistol'kov, A.A.

100-3- - 7.

TITLE Paris Congress on Ultra-High-Frequency Currents and Antennas
(Parizhskiy kongress po tsepyam i antenam: SBCh)

PERIODICAL Radiotekhnika i Elektronika, 1968, v 13, no 1, pp 72-72 (USSR)

ABSTRACT. This international congress took place in Paris during October 21 - 25, 1967. It was organized by the French Scientific Technical Institute of Radio-engineers and by various radio-engineering firms. The congress was attended by a Soviet delegation consisting of six persons and led by Corresponding Member of the Ac.Sc. USSR A.A. Pistol'kov. The congress was attended by about 200 delegates, who read 160 technical papers. The members of the Soviet delegation read 6 papers. 4 of the Soviet papers dealt with the application of ferrites at ultra-high-frequencies, while 2 of the lectures were devoted to the problems of long-distance communications by means of cylindrical waveguides.

AVAILABLE. Library of Congress
no: 1/1

1. Radio engineers-Conference
2. Ultra high frequency communication systems

HISTORICAL, A. A.

A. A. HISTORICAL, A. A. "On the reflection of electromagnetic waves at the interface of two media." Scientific Studies, "Radio Engng. and Electron. Phys.", No. 1, 1964, p. 50.

Higher types of waves arise in the air-magnetized ferrite interface as a waveguide because of the substantial difference in the magnetic field configuration in both media. In order to increase the accuracy of calculations of the ferrite parameters it is of interest to explain the specific nature of the higher types in the phenomena under consideration.

A theoretical analysis of the question leads to an infinite system of equations which admit of solution successive approximations for small values of ferrite magnetization ($k/\lambda \ll 0.1$).

An investigation of the expressions obtained leads to the conclusion that the higher type waves exert almost no influence on the reflection coefficient of the fundamental H_1 wave for small ferrite magnetization.

HISTORICAL, A. .

A. A. HISTORICAL, M. I. Marshak: "Electromagnetic wave transmission through a ferrite plate in a waveguide." Scientific Journal of the USSR Academy of Sciences, May 1959, Translated, Moscow, 1959.

The question of electromagnetic wave transmission through a ferrite plate in a waveguide is of practical interest, in particular, in connection with the use of such plates to measure the tensor magnetic permeability coefficient of a ferrite.

A theoretical analysis of the problem leads to an infinite system of equations whose approximate solution for small values of the ferrite magnetization can be obtained by successive approximations.

The results of computations illustrating the wave transmission through a plate depending on the external magnetic field intensity are presented in the report for various values of plate thickness and dielectric permittivity of the ferrite.

Devoted to "The Book," May, 1907

A diffraction at a dielectric or semi-conducting sheet is treated, and the diffraction method is used to results are derived which are valid for points sufficiently far from the edges and the surface of the sheet. Certain particular diffraction cases are analyzed.

1. The first part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the

2. The second part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the

3. The third part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the

4. The fourth part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the
5. The fifth part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the
6. The sixth part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the
7. The seventh part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the
8. The eighth part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the
9. The ninth part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the
10. The tenth part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the

11. The eleventh part of the report is devoted to the activities of the Corresponding Member, AN SSSR, Laureate of the

PISTOL'KORS, A.A.; KAPLUN, V.A.; KNYAZEVA, L.V.

Diffraction of electromagnetic waves by a dielectric or
semiconductive sheet. Radiotekh. i elektron. 4 no.6:911-919
Je '59. (MIRA 12:5)
(Radio waves--Diffraction)

PISTOL'KORS, A.A., laureat zolotoy medali im. A.S. Popova

Aleksandr Stepanovich Popov and modern radio engineering.
Elektronviaz' 1) no. 3:3-7 Mr '59. (MIRA 12:4)
(Popov, Aleksandr Stepanovich, 1859-1906)
(Radio)

S/194/61/000/007/065/079
D201/D305

9.1000

AUTHOR: Pistol'kors, A.A.

TITLE: The problem of antenna synthesis

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
no. 7, 1961, 34-35, abstract 7 I209 (V sb. 100 let
so dnya rozhd. A.S. Popova, M., AN SSSR, 1960, 84-
92)

TEXT: The methods are considered of antenna synthesis using partial diagrams, eigen-functions and the Fourier integral. The problem is considered of the field distribution control in the antenna aperture, by means of variation of the phase diagram of the directive gain with the amplitude diagram remaining constant. Evaluation is made of the fundamental possible future approaches to the problem. 15 references. [Abstracter's note: Complete translation] /B

Card 1/1

MINTS, A.L., Akademik; PISTOL'KORS, A.A.

"Air levelling in surveying railroad lines" by A.V. Gorinov and others.
Reviewed by A.L. Mints, A.A. Pistol'kors. Transp. stroi. ll no.2:60
P '61. (SIA 44:1)

1. Colen-korrespondent All SSSR (for Pistol'kors).
(Railroads—Surveying) (Aerial photography)
(Gorinov, A.V.)

PISTOL'KORS, A., laureat zolotoy medali im. A.S.Popova.

Radio electronics has passed the test. Radio no.6:5 Je '61.
(MIRA 14:10)

1. Chlen-korrespondent AN SSSR.
(Radio)

4029
S/109/62/007-01-07-02
D201/D301

9,2571

AUTHOR: Pistol'kora, A. A.

TITLE: Axially-symmetric free oscillations of a small radius gyrotropic sphere

PERIODICAL: Radiotekhnika i elektronika, v. 1, n. 1, 1963, p. 1-4

TEX In the present article the author considers a sphere having not so small a radius, when it is necessary to take into account the effect of wave propagation in the ferrite. Two cases are possible. In the first - the magnetic mode oscillations, with even indices (0, 0), (4, 0), ... and in the second one - the even indices pertain to electric mode oscillations. In the present article the first case only is considered. The suggested method of solution consists in that the dependence on angle θ for a given radius-vector r of the field components within the sphere can be represented by in-

finite sums of the form $\sum_{n=0}^{\infty} A_n P_n^0$ and $\sum_{n=1}^{\infty} B_n P_n^1$, where A_n and B_n -

Card 1

4029

5/19/67

D201/D51

Axially-symmetric free oscillations

coefficients changing with the radius r . In other words $A_n = f(kr)$, $B_n = F(kr)$, where k is the wave number and F and F' are functions which are sought in the form of power series kr , P_n and P'_n are Legendre

polynomials. Hence the solution of the electrodynamic problem about the free axially-symmetrical oscillations of a gyrotropic sphere may be reduced to that of solving a system of two partial differential equations in E_r and H_r , whose series solution tends quickly to a limit with successive powers of r provided r is not too large. The coefficients of the first terms of both series, determining the amplitude of oscillations, are found from the boundary conditions at the sphere surface. By equating to zero the determinant of the infinite system of homogeneous equations, set up for evaluating these coefficients, it becomes possible to determine the resonant frequencies of an infinite number, related to each free sphere, of natural oscillations, characteristic for a gyrotropic sphere. The results of the analysis are used by the author to determine the resonant frequencies of self-oscillations of the three first modes $\omega(1,0)$, $\omega(2,0)$ and $\omega(3,0)$ where l and m are integers.

Card 1

3029

S/109/62/107/001. 17, 127

Axially-symmetric free oscillations. D201/D101

tions of n depending on the magnitude of the magnetizing field and on the radius of the sphere. The author acknowledges the help of Sui Yang-sheng in calculations. There are 4 figures and 1 reference: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publication reads as follows: L.R. Walker, Magnetic static modes in ferronugnetic resonance, Phys. Rev., 1957, 104, 190.

SUBMITTED: September 4, 1961

Card 3/3

Application of the ...

efficient of reflection of the carrier wave ...
 to a ... this ... to the spherical ...
 ... in the resonator ...
 ... and ... a ... of the coefficient of reflection ...
 ... sphere ...
 ... is discussed in terms of ...
 ... regions of stable performance of the amplifier ...
 ... from the shell of the resonator are constant in ...
 ... of phase shift of the spherical waves ...
 ... It is shown ... from the derived ...
 ... reduce the amplification factor and the ...
 ... for various working conditions of the amplifier. There are ...
 ... and 2 references: 1 Soviet-style and 1 non-Soviet-style.

SUBMITTED: October 14, 1967

Card 24

ACC NR: AP7005584 SOURCE CODE: UR/0020/67/172/002/0334/0337

AUTHOR: Pistol'kors, A. A. (Corresponding member AN SSSR)

ORG: none

TITLE: The resolution of a hologram

SOURCE: AN SSSR. Doklady, v. 172, no. 2, 1967, 334-337

TOPIC TAGS: holography, laser photography, ~~lasography~~, hologram resolution

ABSTRACT:

Electrodynamics methods were used to study the resolution of a hologram from a reconstructed image. For the sake of simplicity, a two-dimensional problem was considered (a luminous line). The analysis of the real image field was carried out by comparing it to the directivity pattern of a cophased array. In the case of a nonsymmetrical distribution of the reproduced luminous line with respect to the hologram, resolution of the latter falls off with the increasing deviation from the normal to the hologram center. The hologram was assumed to be ideally plane and infinitely thin. The hologram resolution was found to be higher along the X-axis

Cord 1/2

UDC: 621.378.9.77